Summary

Plants have developed mechanisms to integrate both endogenous and environmental cues for regulation of flowering time. When environmental and physiological (e.g. photoperiod, temperature) (e.g. stage of development) conditions are appropriate plants undergo the floral transition and become reproductive. The timing of flowering initiation depends on the balanced expression of many different genes that are regulated by both endogenous and environmental factors. As a result of physiological, genetic, and molecular analysis of *Arabidopsis thaliana* mutants altered in flowering time the existence of a long-promotion pathway, a gibberellic-acid promotion pathway, as well as vernalization and autonomous pathway were discovered and characterized. A few dozen of genes invilved in flower induction of *Arabidopsis* were identified. Some of them can integrate two or three flowering pathways.